

AMENDMENTS TO THE CLAIMS

Claim 1 (Original): A method for screening for the activity of one or more agents on a nematode, said method comprising:

providing a microtiter plate comprising a plurality of wells, each of a plurality of said wells containing one or more nematodes;

contacting said nematodes with one or more test agents;

contacting said nematodes with a detectable label that indicates the viability of said nematodes; and

detecting said detectable label to ascertain the viability of nematodes contacted with said one or more test agents where an increase or decrease in the viability of the nematodes contacted with said test agents that the nematodes are susceptible to the activity of said test agent or that said test agent is active on said nematodes.

Claim 2 (Original): The method of claim 1, wherein said microtiter plate comprises at least 384 wells.

Claim 3 (Original): The method of claim 1, wherein said detectable label is a fluorescent label.

Claim 4 (Original): The method of claim 3, wherein said detectable label is a label that penetrates compromised cell membranes, but is substantially or completely excluded from live eukaryotic cells.

Claim 5 (Original): The method of claim 1, wherein said detectable label is selected from the group consisting of SYTOX® blue, SYTOX® orange, and propidium iodide.

Claim 6 (Original): The method of claim 4, wherein said label is SYTOX® cell stain.

Claim 7 (Original): The method of claim 3, wherein said detecting comprises detecting fluorescence in one or more wells comprising said microtiter plate with a fluorometer.

Claim 8 (Original): The method of claim 1, wherein said providing comprises dispensing one or more nematodes into a plurality of wells comprising a microtiter plate using an automated dispensing system.

Claim 9 (Original): The method of claim 8, wherein said providing comprises dispensing one or more nematodes into a plurality of wells comprising a microtiter plate using a COPAS™ BIOSORT device.

Claim 10 (Original): The method of claim 1, wherein said nematodes comprise *Caenorhabditis* sp.

Claim 11 (Original): The method of claim 1, wherein said nematodes comprise *Caenorhabditis elegans*.

Claim 12 (Original): The method of claim 11, wherein said nematodes comprise non-wildtype strains of *C. elegans*.

Claim 13 (Original): The method of claim 11, wherein said nematodes comprise genetic knock outs.

Claim 14 (Original): The method of claim 11, wherein said nematodes comprise transgenic nematodes.

Claim 15 (Original): The method of claim 11, wherein said nematodes comprise thermotolerant nematodes.

Claim 16 (Original): The method of claim 1, comprising subjecting said nematodes to heat and determining if said test agents increase or decrease thermotolerance of said nematodes.

Claim 17 (Original): The method of claim 1, comprising subjecting said nematodes to an agent that increases oxidative stress and determining if said test agents increase or decrease tolerance of oxidative stress by said nematodes.

Claim 18 (Original): The method of claim 1, comprising subjecting said nematodes to a nematocide and determining if said test agents increase or decrease tolerance of said nematocide by said nematodes.

Claim 19 (Original): The method of claim 1, wherein said method comprises providing a multiplicity of said microtiter plates.

Claim 20 (Original): The method of claim 1, wherein said detecting comprises reading a multiplicity of said microtiter plates.

Claim 21 (Original): The method of claim 1, wherein said microtiter plate is selected from the group consisting of a 96 well plate, a 100 well plate, a 320 well plate, a 384 well plate a 864 well plate, and a 1536 well plate.

Claim 22 (Original): The method of claim 21, wherein said microtiter plate is opaque.

Claim 23 (Original): A device for screening for the activity of one or more agents on a nematode, said device comprising:

a microtiter plate comprising a plurality of wells, each of a plurality of said wells containing one or more nematodes.

Claim 24 (Original): The device of claim 23, wherein the wells containing said one or more nematodes also contain a detectable label that indicates the viability of said nematodes.

Claim 25 (Original): The device of claim 24, wherein said detectable label is a fluorescent label.

Claim 26 (Original): The device of claim 25, wherein said detectable label is a label that penetrates compromised cell membranes, but is substantially or completely excluded from live eukaryotic cells.

Claim 27 (Original): The device of claim 24, wherein said detectable label is selected from the group consisting of SYTOX® blue, SYTOX® orange, and propidium iodide.

Claim 28 (Original): The device of claim 24, wherein said label is a SYTOX® cell stain.

Claim 29 (Original): The device of claim 23, wherein the wells containing said one or more nematodes also contain culture medium for said nematodes.

Claim 30 (Original): The device of claim 23, wherein said microtiter plate is selected from the group consisting of a 96 well plate , a 100 well plate, a 320 well plate, a 384well plate a 864 well plate, and a 1536 well plate.

Claim 31 (Original): The device of claim 23, wherein said microtiter plate is opaque.

Claim 32 (Original): The device of claim 23, wherein at least 96 wells comprising said microtiter plate contain one or more nematodes.

Claim 33 (Original): The device of claim 23, wherein at least 384 wells comprising said microtiter plate contain one or more nematodes.

Claim 34 (Original): The device of claim 23, wherein at least 320 wells comprising said microtiter plate contain one or more nematodes.

Claim 35 (Original): The device of claim 23, wherein said microtiter plate is loaded with nematodes using an automated dispensing system.

Claim 36 (Original): The device of claim 35, wherein said automated dispensing system comprises a COPAST™ BIOSORT device.

Claim 37 (Original): The device of claim 23, wherein said nematodes comprise *Caenorhabditis* sp.

Claim 38 (Original): The device of claim 23, wherein said nematodes comprise *Caenorhabditis elegans*.

Claim 39 (Original): The device of claim 38, wherein said nematodes comprise non-wildtype strains of *C. elegans*.

Claim 40 (Original): The device of claim 38, wherein said nematodes comprise genetic knock outs.

Claim 41 (Original): The device of claim 38, wherein said nematodes comprise transgenic nematodes.

Claim 42 (Original): The device of claim 23, wherein said nematodes comprise thermotolerant nematodes.

Claim 43 (Original): A kit for screening for the activity of one or more agents on a nematode, said kit comprising:

a microtiter plate comprising a plurality of wells;

a plurality of nematodes; and

a detectable label that indicates the viability of said nematodes.

Claim 44 (Original): The kit of claim 43, wherein said plurality of nematodes are disposed such that each of a plurality of said wells contains one or more of said nematodes.

Claim 45 (Original): The kit of claim 43, wherein each of a plurality of said wells contains said detectable label.

Claim 46 (Original): The kit of claim 45, wherein a plurality of the wells containing nematodes also contain said detectable label.

Claim 47 (Original): The kit of claim 43, wherein said detectable label is a fluorescent label.

Claim 48 (Original): The kit of claim 43, wherein said detectable label is a label that penetrates compromised cell membranes, but is substantially or completely excluded from live eukaryotic cells.

Claim 49 (Original): The kit of claim 43, wherein said detectable label is selected from the group consisting of SYTOX® blue, SYTOX® orange, and propidium iodide.

Claim 50 (Original): The kit of claim 43, wherein said label is a SYTOX® cell stain.

Claim 51 (Original): The kit of claim 43, wherein the wells containing said one or more nematodes also contain culture medium for said nematodes.

Claim 52 (Original): The kit of claim 43, wherein said microtiter plate is selected from the group consisting of a 96 well plate , a 100 well plate, a 320 well plate, a 384well plate a 864 well plate, and a 1536 well plate.

Claim 53 (Original): The kit of claim 43, wherein said microtiter plate is opaque.

Claim 54 (Original): The kit of claim 44, wherein at least 96 wells comprising said microtiter plate contain one or more nematodes.

Claim 55 (Original): The kit of claim 44, wherein at least 384 wells comprising said microtiter plate contain one or more nematodes.

Claim 56 (Original): The kit of claim 44, wherein at least 320 wells comprising said microtiter plate contain one or more nematodes.

Claim 57 (Original): The kit of claim 44, wherein said microtiter plate is loaded with nematodes using an automated dispensing system.

Claim 58 (Original): The kit of claim 57, wherein said automated dispensing system comprises a COPAST™ BIOSORT device.

Claim 59 (Original): The kit of claim 43, wherein said nematodes comprise *Caenorhabditis* sp.

Claim 60 (Original): The kit of claim 43, wherein said nematodes comprise *Caenorhabditis elegans*.

Claim 61 (Original): The kit of claim 60, wherein said nematodes comprise non-wildtype strains of *C. elegans*.

Claim 62 (Original): The kit of claim 60, wherein said nematodes comprise genetic knock outs.

Claim 63 (Original): The kit of claim 60, wherein said nematodes comprise transgenic nematodes.

Claim 64 (Original): The kit of claim 43, wherein said nematodes comprise thermotolerant nematodes.

Claim 65 (Original): The kit of claim 43, further comprising instructional materials teaching the use of said kit for high throughput screening for the effect of a test agent on a nematode.